March 8, 2002

DOCKET NO. 25188

PETITION OF EL PASO NETWORKS, LLC FOR ARBITRATION OF AN INTERCONNECTION AGREEMENT WITH SOUTHWESTERN BELL TELEPHONE COMPANY	§ § § § §	**BEFORE THE PUBLIC UTILITY COMMISSION OF TEXAS**

EL PASO NETWORKS LLC
DIRECT TESTIMONY OF ROBERT PASSMORE

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Q. PLEASE STATE YOUR NAME AND CURRENT JOB TITLE.

A. My name is Robert Passmore. I am a Technical Design Consultant for El Paso Global Networks, Inc. ("EPN").

Q. HAVE YOU EVER TESTIFIED BEFORE THE PUBLIC UTILITY COMMISSION OF TEXAS?

A. Yes. I testified at the hearing for an Interim ruling on EPN's Complaint for Post Interconnection Dispute Resolution in Docket 25004 on November 19, 2001, and I hereby adopt my testimony as if restated herein. In addition, parallel with this proceeding, I am testifying again in connection with that proceeding and have filed separate testimony in that case.

Q. WERE YOU PRESENT DURING THE ENTIRE HEARING ON EPN'S REQUEST FOR AN INTERIM RULING?

A. Yes I was.

Q. WERE YOU PRESENT FOR THE ENTIRE TESTIMONY OF SWBT WITNESS MR. RON ROBERTS?

A. Yes. I was and have attached a copy of the transcript from his testimony as an exhibit to my testimony.

Q. HAVE YOU EVER PROVIDED THE COMMISSION WITH SWORN STATEMENTS SUCH AS IN AN AFFIDAVIT?

A. Yes. In the related Complaint docket, 25004, I filed an Affidavit on November 12, 2001 in conjunction with the Complaint EPN filed against Southwestern Bell Telephone Company ("SWBT").

Q. PLEASE DESCRIBE YOUR CURRENT RESPONSIBILITIES AT EPN.

A. At EPN, I work with the Fiber Procurement group. Part of my responsibility is to review SWBT's fiber maps and engineering records when SWBT's response to an EPN facility check for dark fiber states that no facilities are available.

Q. PLEASE SUMMARIZE YOUR WORK EXPERIENCE BEFORE JOINING EPN?

A. I have over 29 years experience working in the Telecommunications industry, mostly working with outside plant for the SWBT in Texas. From 1972 to 1988, I worked for SWBT as a Cable Splicing Supervisor where I supervised fiber optic splicing crews in Houston. From 1988 to up until my retirement from SWBT in November 2000, I held various positions in marketing, largely providing technical support to SWBT's sales organization in major markets.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to address the factual basis in support of EPN's position on the EPN Issues 16, 45, and 49, and SWBT Issues 5 through 7.

Issue 16: Should SWBT be required to replace defective UNEs with working UNEs, without requiring EPN to initiate a new inquiry ordering process? (App. UNE § 7.2.11).

Q. WHAT IS THE NATURE OF THE DISPUTE CONCERNING ISSUE 16?

A. Issue 16 relates to SWBT's proposed anti-competitive ordering and provisioning practices. Specifically, when SWBT provisions a UNE or UNE combination for EPN, and then finds that the UNE or UNE combination is defective, SWBT requires EPN to initiate a new inquiry ordering process for a new UNE or UNE combination, rather than simply replacing the defective UNE or UNE combination. SWBT's practices serve no other purpose than to delay EPN's ability to turn up its network. This is especially difficult with dark fiber.

Q. HAS SWBT EVER REPLACED EPN'S UNES WITHOUT REQUIRING EPN TO SUBMIT A NEW ORDER?

A. Actually, SWBT has stated that dark fiber is "take it or leave it" and offers no guarantee of quality. When EPN was turning up its Fort Worth, Texas network, SWBT did work cooperatively with EPN and actually replaced some fibers that were defective. After escalations and discussions, SWBT agreed to replace the defective fibers without forcing EPN repeat the ordering process. Replacing EPN's defective UNEs in this way was more efficient and in parity with how SWBT treats itself and its own customers. EPN is confused as to why SWBT is refusing to put into contractual terms that which it has agreed to do and has done in the past.

Q. DOES SWBT REQUIRE ITS CUSTOMERS AND AFFILIATES TO RE-INITIATE THE ORDERING PROCESS EACH TIME COOPERATIVE TESTING DISCOVERS THAT A FACILITY OR NETWORK ELEMENT USED TO SERVE THEM IS DEFECTIVE?

A. No. SWBT does not treat EPN in the same manner as it treats its customers and affiliates

Q. HOW IS EPN HARMED BY SWBT'S PROPOSAL?

A. Under SWBT's proposal, once an order is completed and the circuit is found to be defective, SWBT requires EPN to start the long process of ordering another circuit, even though the order request is identical to the one SWBT just worked on. It is illogical and wasteful for SWBT and EPN to go through an identical order and provisioning request because cooperative testing has determined facilities to be defective. SWBT does not make their customers restart the ordering process, they simply fix the circuit to meet specific requirements with no additional delays via the ordering and provisioning systems.

Q. ARE SWBT'S PRACTICES ANTI-COMPETITIVE?

A. Yes. Although SWBT agrees to cooperatively test UNEs, and agrees to replace defective UNEs, it insists that EPN must *re-start* the ordering and provisioning process in order to replace the defective UNE. Such a requirement serves no other purpose than to impede EPN's provisioning cycle for its customers and significantly increases the possibility that EPN will miss delivery dates to its customers. SWBT has an obligation to maintain UNEs that it provides, and if it provides a defective facility it should replace it. When EPN is refused parity treatment vis-à-vis SWBT's customers or affiliates, EPN is disadvantaged in the market. SWBT's proposal causes delays in the ordering and provisioning process and are calculated to hinder EPN's ability to compete. SWBT should not be permitted to circumvent its obligations under the Act in this manner.

Q. WHAT RESOLUTION DOES EPN SEEK FOR ISSUE 16?

A. Consistent with the non-discriminatory, pro-competitive mandates of the Act, SWBT should be required to provide EPN with parity access to cooperative testing. To this end, the cooperative testing section of the Agreement should state that when SWBT

cooperatively tests UNEs and UNE combinations with EPN, and the UNE or UNE combination is found to be defective, SWBT should be obligated to replace it, without requiring EPN to re-initiate the ordering process.

Issue 45: **Should SWBT be required to provide fiber that is currently available for use by SWBT irrespective of the fact that the fibers may need to be terminated and/or spliced? (App. UNE §§ 18.1.4, 18.1.5, 18.1.6)**

Should SBC be required to splice dark fiber for EPN? (App. UNE §§ 18.1.6, 18.3.1)

SWBT Issue 5 **What is the appropriate definition of Dark Fiber?**
SWBT Issue 6 **What is the appropriate definition of Interoffice Dark Fiber?**
SWBT Issue 7 **Whether the Agreement should require SWBT to offer "Loop Dark Fiber" as a UNE?**

Q. WHAT IS THE NATURE OF THE DISPUTE REGARDING ISSUE 45, AND SWBT ISSUES 5-7?

A. Meaningful access to unbundled dark fiber is EPN's most critical objective in this arbitration. In most cases, for CLECs to be able to use SWBT's dark fiber, the fiber must be spliced at one or more locations, which can be performed by SWBT, or, with SWBT's permission, CLEC or third-party technicians. In its previous arbitration, Waller Creek sought the right to perform its own splices, but its request was deemed moot when SWBT agreed on the witness stand to splice upon request. Over the last three years, SWBT has spliced loop fibers routinely for EPN, a service without which EPN could not have built its existing telecommunications business in Texas. However, SWBT has increasingly imposed limitations on EPN's ability to obtain splicing for dark fiber, and finally, in the current negotiation, SWBT has taken the position that it will not splice any dark fiber.

Q. WHAT IS "DARK FIBER"?

A. Dark fiber is one or more strands of optical fiber transmission facilities that has been placed in the ground and is deployed without the attached multiplexing, aggregation or other electronics that are used to energize, or "light" the fiber and enable it to carry telecommunications services. The dark fibers are deployed in the ground and on poles throughout SWBT's network, ready to be easily called into service at any time. Cables usually carry fiber strands in increments of twelve, with the most common strand counts of 24, 48, 72, 96, 144, 288, or 432 fiber strands.[1] Each fiber strand within a cable is coated for added strength, usually bundled in ribbons or tubes of twelve strands, and enclosed in a tough protective layer called a cable sheath. Each strand is approximately the width of a human hair, and a typical 24- fiber cable, including the sheath, is approximately the width of a pencil.

Q. WHY IS THERE A NEED TO SPLICE FIBERS IN A TELECOMMUNICATIONS NETWORK?

A. Splicing of fiber occurs regularly for a number of reasons. First, and foremost, when SWBT deploys fiber optic cable in the field between a Central Office and a building, it regularly designs breaks in the path at various points. Fiber is regularly laid in fiber segments, not one long piece of fiber from one building to the next. These segments are provisioned in various sizes, measured by the number of strands they contain. The larger cables called backbone fiber cables, traverse main routes between wire centers or through high-volume corridors, and these backbone cables are connected to smaller distribution cables that serve individual customer locations. The connections between the backbone

[1] Fibers have been traditionally energized in pairs, since each individual strand provides transmission in only one direction. New technologies, such as DWDM ("Dense Wave Division Multiplexing"), allow a light signal to be sent and received on the same fiber strand.

and distribution cables are established by splicing strands from one cable to those of the other at a splice case. In most cases in which SWBT wants to provide additional capacity to its customers, or initiate fiber services to a customer that is served by SWBT's existing distribution network, it must close these mid-span breaks by connecting, or splicing, two fibers together. Splicing enables the existing fiber route to carry continuous transmission of light and therefore to support the provision of telecommunications services.

Q. WHAT IS UNBUNDLED DARK FIBER?

A. Unbundled dark fiber, or dark fiber UNE, is dark fiber that is deployed in SWBT's network, not currently being used to provide telecommunications services, and available for use by CLECs under the rules adopted by this Commission and the FCC. The FCC found that dark fiber is a UNE, even though it is not currently used to provide any services, because it is physically connected to the incumbent's network and is easily called into service. The FCC distinguished between copper wire stored in a warehouse, which is not a UNE because it is not easily called into service, with copper "dead count," which is a UNE because it has been deployed in the field and is easily called into service.

Q. WHY HAS SWBT DEPLOYED FIBERS THAT ARE NOT USED CURRENTLY TO PROVIDE TELECOMMUNICATIONS SERVICE?

A. SWBT has deployed thousands of miles of fiber-optic facilities to connect thousands of locations in its network, including wire centers, remote terminals, controlled environmental vaults (CEVs), huts, customer locations, and other intermediate points. Since each fiber strand within a cable supports independent telecommunications, the fibers within each cable can be connected in different directions at junction points where

multiple cables meet, so that the carrier can utilize its fiber on any number of possible routes between any of the locations connected by any fiber.

When a carrier deploys fiber optic facilities, once it has obtained all of the necessary right-of-way and other authorizations to dig, the largest expense is generally the digging up of streets and creation of the trench. Once that significant cost is incurred, it is relatively easy and inexpensive to lay a greater number of fiber strands than are initially needed by the carrier. As an industry average, for a mere $1.00 per foot, a carrier can increase the fiber placement from a 72-fiber strand cable to 144-fiber strand cable. Because of these cost considerations, it makes sense, once conduit systems are finally built, to utilize the conduit to the maximum advantage by over-deploying the cable count that is put into the conduit pipe.

Also, as I previously noted, manufacturers make cable in certain standard sizes. If a carrier projects a need for 75 fibers, for example, along a particular route, it may have to install 144 fibers because no smaller size available would provide enough capacity. Or, in a major business corridor, it may want to make sure it never has to dig again, and so it may insert much more fiber than its current forecast requires. These additional deployed fibers remain dark, but may easily be called into service later, as needed, simply by splicing together the desired route and attaching electronics. By contrast, if SWBT left its surplus fiber facilities on a cable reel in a warehouse, it would be far more difficult to bring additional capacity into service. The practice of placing a larger fiber cable than is forecasted or needed at the time is common practice in the industry. It is economically more viable to oversize fiber cable since the greatest cost is with the placement of the fiber cable itself, and not the size of the fiber cable being placed.

Q. FOR WHAT PURPOSE DOES EPN SEEK ACCESS TO UNE DARK FIBER?

A. EPN has built a robust network in San Antonio, Austin, Houston, Dallas and Fort Worth. In order to utilize these facilities to provide services to customers, EPN must be able to obtain "last mile" dark fiber local connections between its existing and prospective customers and the EPN network. EPN's preference, where economically viable, is to use its own fiber, and EPN has deployed hundreds of fiber miles in the State of Texas. However, it is impossible for EPN or any CLEC in the near term to duplicate the ubiquitous fiber network that SWBT has constructed, utilizing rate payer dollars earned during its monopoly era over the past 25 years. While in some cases third-party carriers offer dark fiber facilities on long-haul routes and in core urban areas, SWBT is the only carrier in its region with a deployed local, or "last mile," distribution fiber network. There is no other source from which EPN can obtain local fiber distribution in a cost-effective manner. EPN's ability to obtain dark fiber UNEs from SWBT remains critically important, so that EPN will be able to offer competitive services to Texas customers in SWBT's local service areas.

Without this ability, EPN would be left with an expensive network and no realistic ability to deliver competitive telecommunications services to its customers. EPN has created a robust fiber super-highway to help break the broadband bottleneck. EPN is asking SWBT to provide the off-ramps and on-ramps from EPN's super highway to customer locations by providing dark fiber UNEs that have been conditioned, using nationally recognized standards, to allow a beam of light to pass end to end. As stated, without these dark fiber UNEs, which serve as the on-ramps and off-ramps, EPN would

have an expensive broadband network with no realistic way to offer competitive services to customers.

Q. WOULD THE CONTRACT TERMS PROPOSED BY SWBT IMPAIR THE ABILITY OF EPN TO PROVIDE TELECOMMUNICATIONS SERVICES USING UNBUNDLED DARK FIBER FROM SWBT?

A. Absolutely. The contract terms proposed by SWBT would effectively end dark fiber as a UNE and end EPN's business as it currently exists. EPN's ability to utilize dark fiber UNEs would be severely impaired because SWBT's proposed contract terms would exempt from it from its unbundling obligations with respect to a significant percentage of its dark fiber. EPN's business plan relies heavily on its ability to obtain unbundled dark fiber from SWBT. SWBT's proposal would exempt from unbundling obligations all dark fiber that requires splicing. EPN's prior experience with obtaining dark fiber from SWBT illustrates that SWBT's proposed limitation would exclude a significant percentage of SWBT's facilities from unbundling. Of the actual dark fiber service orders submitted by EPN to SWBT since 1999, the percentage of dark fiber loops that required splicing at some point in the path of the fiber to give EPN a continuous fiber are as follows:

Austin	47% of fibers required splicing
Dallas	72% of fibers required splicing
Fort Worth	55% of fibers required splicing
Houston	60% of fibers required splicing
San Antonio	66% of fibers required splicing[2]

[2] *Complaint and Request for Interim Ruling of El Paso Networks, LLC for Post Interconnection Agreement Dispute Resolution with Southwestern Bell Telephone Company*, Docket No. 25004, *Petition of El Paso Networks, LLC for Arbitration of an Interconnection Agreement with Southwestern Bell Telephone Company*, Docket No. 25188, Request for the Presiding Officer to Take Emergency Action Under Procedural Rule 22.78(C) and Preserve the Status Quo, at Ex.-D, p. 2-3 (Tex. P.U.C. Feb. 26, 2002).

In view of the frequency with which splicing was required, it is clear that, if splicing had not been available, EPN could not have undertaken a successful business plan in any of these markets that relied on dark fiber. Moreover, in the future, SWBT could eliminate its dark fiber unbundling obligation altogether by leaving all dark fibers not in use unspliced in at least one location. Therefore, if SWBT were permitted to exclude such a significant portion of its facilities from its unbundling obligations, EPN would not be able to continue to provide its competitive telecommunications services in Texas. Splicing is, therefore, critical to EPN's survival in the Texas telecommunications market.

Q. WHY DOES SUCH A SIGNIFICANT PERCENTAGE OF POSSIBLE ROUTES ON SWBT'S DARK FIBER NETWORK REQUIRE SPLICING?

A. Although SWBT's fiber transmission facilities, when viewed on a map, connect thousands of locations in SWBT's network, the individual fiber strands on deployed but unused fibers are typically not interconnected until SWBT needs the individual strands to provision service. As previously noted, similar to other utility distribution systems, large backbone cables are typically each paired with a number of smaller distribution cables. SWBT typically splices and terminates only the fibers needed for its current services and leaves the remaining fibers unterminated and unspliced for future use. Leaving the unused pairs unspliced is understandable, because SWBT usually will not know which of the several distribution cables will eventually need the unused capacity. Even when service is already provided over a particular route, SWBT generally connects only the precise number of strands that are needed for in-service demand. The only instance where SWBT routinely splices most of the fibers on the initial placement of the cable, in my experience, has been in the interoffice fiber network, in which it is predictable going

forward that there will be substantial transport activity between the same two points.[3] When SWBT needs to call into service a new fiber route, or additional strands on an existing route, only then will it splice or condition for service the necessary strands. SWBT's practice, which retains flexibility for the future use of unused fibers, is sometimes called "just in time engineering." When SWBT or a CLEC wishes to provide a new service using a local distribution fiber, therefore, it is highly likely that the unused dark fiber strands on the necessary route would need to be spliced before the fiber can be lit. SWBT's "just in time" engineering philosophy is a practice SWBT has used for many years, as I was taught to use such practice as an employee of SWBT. EPN does not oppose SWBT's use of "just in time" engineering; it objects only to SWBT's "just for us" engineering.

Q. IF A DESIRED DARK FIBER ROUTE REQUIRES SPLICING, AND THE SPLICING IS NOT PERFORMED, IS THERE ANYTHING THAT EPN COULD DO TO PROVIDE TELECOMMUNICATIONS OVER THE DARK FIBER?

A. No. Even though a fiber route in this example is fully installed on the desired route, without the conditioning of the fiber cable by splicing, a transmission cannot pass through the intermediate points. This would be like trying to send water through two garden hoses without fastening the hoses together. EPN would be unable to light the dark fiber UNE and use it to provide telecommunications services. SWBT's position that it would refuse to provide the necessary splicing or to allow EPN to perform the splicing itself, in combination, is unreasonable because it would completely deprive EPN of the ability to utilize the significant percentage of SWBT's dark fibers that require a splice to

[3] However, it has been EPN's experience that even when ordering interoffice dark fiber, there have been times that SWBT spliced fiber to provide those UNEs to EPN.

support transmission over specified routes. Since EPN's business plan relies upon its ability to obtain unbundled dark fiber from SWBT, it is crucial that the interconnection agreement requires SWBT to disclose the dark fiber routes that would require splicing, and that SWBT perform splicing at EPN's request or permit EPN to perform its own splices.

Q. ARE UNSPLICED DARK FIBERS PHYSICALLY CONNECTED TO SWBT'S NETWORK?

A. Yes. When SWBT has undergone significant expense to deploy fiber by obtaining rights of way, digging up streets, and burying fiber optic points throughout SWBT's network, it cannot reasonably maintain that it does not have dark fiber between any two points simply because it chooses to leave the fibers unspliced at one or more manhole junctions. Every SWBT dark fiber strand is physically connected to SWBT's network through the cables and conduits in which they are deployed. These cables and conduits are connected to SWBT facilities, such as wire centers and other terminals, and to each other at junction points in manholes and other locations. SWBT does not bury fiber and string it to aerial cables as a convenient place to warehouse excess fiber. Deployment of fiber facilities in these cables and conduits was an expensive endeavor that was undertaken so that the facilities would be in place, physically connected to SWBT's network, as needed, and could easily be called into service.

SWBT treats these dark fiber facilities deployed, regardless of whether the facility would need to be spliced in order to be called into service. These fibers are recorded as deployed on SWBT's Plant Layout Records database, which is used to identify facilities that can be easily called into service. The facilities are also recorded as deployed in

wire centers, remote terminals, controlled environmental vaults (CEVs), huts, various distribution points, and at the customer location, where there are suitable environmental conditions to house electronic equipment, fiber is usually spliced or terminated to a fiber distribution frame. On these frames, the fibers are cross-connected to other fibers by a "jumper" or cross connect cable, functionally similar to the type of cable that connects a television and a VCR (except that it is made of fiber). Splices at locations without environmental controls, such as at a manhole or on a utility pole, are instead performed at splice cases, which are metal or hard plastic boxes located at designated junctions of cables.

Q. PLEASE DESCRIBE A TYPICAL SPLICE CASE.

A. Splice cases are boxes that are approximately three feet long and two feet wide. The cases are specially designed to allow multiple, repeated entries for the purpose of performing splicing, repair, testing or other activities. The cases allow a technician to open cables and expose fibers for splicing in an environment that is protected from water, dirt and dust. Inside the box's chamber, the outer protective layer of the cables is stripped to expose the individual fiber strands. Many splice cases feature an arrangement of special shelves to organize and hold the fiber strands after they have been spliced. Pictures of a splicing tray are attached to my testimony as Exhibit A.

Q. HOW DOES A TECHNICIAN ACCESS THE FIBERS INSIDE A SPLICE CASE?

A. The technician obtains access to the fibers in a splice case by unscrewing the lugs and removing the top of the case. Splice cases attached to telephone poles are easy to access by ladder or a truck with a bucket attached that safely hoists the technician to the splice. Other splice cases are located in manholes, which are small underground concrete rooms

SWBT's Job Management Operating System (JMOS), which is tied to the property and tax databases of SWBT used to identify deployed assets.

Q. IS IT TECHNICALLY FEASIBLE FOR SWBT TO PERFORM SPLICING IN THE MANNER THAT EPN HAS REQUESTED IN THIS ARBITRATION?

A. Yes. There is no question that splicing is technically feasible. Countless numbers of telephone technicians, including myself, have regularly spliced fiber in the manner that EPN requests in this arbitration. I have personally spliced fiber, and I have supervised other splicing personnel during my years working for SWBT. My SWBT splicing team opened existing splice cases that housed lit fibers to splice unterminated fibers, add new cables, and rearrange existing spliced fibers. SWBT has crews of employees in each major market area whose sole responsibility is to do these functions on a daily basis, and SWBT has performed numerous splices for EPN in the past. Furthermore, other ILECs and other carriers regularly perform splices on dark fiber.

Q. YOU TESTIFIED ABOVE THAT SWBT'S DARK FIBERS ARE EASILY CALLED INTO SERVICE. IS THIS TRUE OF FIBER ROUTES THAT MUST FIRST BE SPLICED?

A. Yes. Splicing is a routine engineering activity that requires only a short time to complete. SWBT regularly and easily performs splicing for its own needs (and, until it reneged on its pledge from the Waller Creek arbitration, for the needs of EPN).

Q. WHERE IN THE NETWORK CAN SPLICES BE PERFORMED?

A. Splices can be performed at any place where two fibers meet. However, in this arbitration, EPN is only seeking the right to have splices performed at termination points and at existing SWBT splice cases. For terminations, which are performed at SWBT

that are the meeting place of numerous large pipes, called conduits, that carry fiber cables and other facilities. Where a splice case is located in a manhole, the technician may need to pump water from and ventilate the manhole before the splice case can be accessed, a standard practice clearly documented within SWBT for splicing fiber and for conditioning copper loops. SWBT's technicians enter manholes on a daily basis and are familiar with the safety and procedural standards to be followed. These manholes hold both the copper cables that are constantly accessed to condition unbundled xDSL loops as well as the fiber cables that need splicing. Inside the manhole, each splice case is labeled with a cable name or number and attached to cable racks, allowing the technician to easily identify the correct case to be opened, whether copper or fiber.

Q. HOW ARE SPLICES PERFORMED?

A. At manholes and telephone poles, each fiber cable has sufficient excess coil such that the technician can uncoil the fiber cable to the technician's van, where the technician makes the splice while the fiber and splice case are enclosed in the van at ground level. The splicing method preferred by EPN and used most commonly by SWBT is fusion splicing, which uses a small laser to melt the glass from two cables together, after which the fibers are covered with a special protective plastic sleeve.

Q. HAS SWBT PERFORMED SPLICING FOR EPN IN THE PAST, AND IS THAT SPLICING STILL TECHNICALLY FEASIBLE?

A. Yes. As I described earlier, SWBT committed to perform splicing for EPN at the hearing in the Waller Creek arbitration, and in the last three years SWBT has spliced dark fibers routinely for EPN, which proves that splicing is technically feasible. EPN would not have been a viable competitor in San Antonio, Austin, Houston, Dallas and Fort Worth

had SWBT not spliced fiber for it. Moreover, because of SWBT's past provisioning of splicing to EPN, the ordering, billing and provisioning procedures needed to implement EPN's proposed terms are already are in place, including USOC codes for billing and forms for service orders.

Recently, SWBT in some cases decided to limit its willingness to perform splicing to routes that it considers to be primary routes. On routes that SWBT deems to be "other than normal," SWBT usually (but, for reasons unclear to EPN, not always) has refused to perform splicing and does not provide information on dark fibers that would require such splicing in response to an EPN dark fiber inquiry. However, SWBT has never contended that such splicing is infeasible, and, as EPN has explained elsewhere in its testimony, there is no technical difference between the fiber facilities that SWBT describes as "normal" versus "other than normal."

Q. IN THE COSERV ARBITRATION, THE COMMISSION RULED THAT SWBT COULD NOT EXCLUDE FIBERS FROM UNBUNDLING OBLIGATIONS ON THE BASIS THAT THEY HAVE NOT BEEN TERMINATED. ARE THERE ANY DIFFERENCES BETWEEN TERMINATION AND SPLICING?

A. Termination by its very nature requires splicing activity to occur, and the engineering work required is essentially the same. Termination and splicing do not involve complex engineering; their functions can be visualized easily, termination as the plugging in of an appliance into an electrical outlet, and splicing as the connection of a power cord to an extension cord so that it may reach a different outlet. The only material difference between termination and splicing is that splices of two fibers are often needed at locations in a manhole, which may require somewhat more time and effort to be accessed. A

termination, meanwhile, involves splicing a fiber strand into a fiber on a termination panel at a relatively more accessible location, such as a customer premises or central office. Both acts require exactly the same type of splicing.

Q. WHAT EFFECT WILL THE COMMISSION'S TERMINATION RULE HAVE IF CLECS DO NOT HAVE ACCESS TO ANY DARK FIBER ROUTES THAT WOULD REQUIRE SPLICING?

A. The Commission's requirement that SWBT count unterminated fibers in its definition of available fibers will, by itself, do little if anything to enable CLECs to obtain access to dark fiber, because it only addresses the first and last segments of the dark fiber route. There is usually at least one intermediate splice point which, if not spliced, renders the entire fiber route unusable to the CLEC. To illustrate, the fiber cable that connects customer locations to the larger backbone fiber cables in the SWBT network generally include a minimum of twenty-four strands leaving such customer location. Most customer services use at a maximum only four strands; SWBT would leave the remaining twenty strands unterminated at the customer premises *and* unspliced at the splice case in the manhole near the customer premises where the fiber strands adjoin a much larger SWBT backbone fiber cable. While the CoServ arbitration prohibits SWBT from concealing the availability of these twenty fibers on the basis that they are not terminated at the customer premises, if SWBT's proposed contract terms in this proceeding are adopted, SWBT can, and now apparently will, refuse to provide these dark fibers to a CLEC on the grounds that they are not eligible for unbundling because they only travel to a nearby manhole, and not to the endpoint requested by the CLEC.

Therefore, SWBT's offer to unbundle dark fiber that is terminated but not those that require splicing is therefore a hollow promise that in many cases will still deprive CLECs of the right to obtain SWBT's deployed dark fiber on an unbundled basis. If SWBT will not or does not perform splicing for EPN, the distribution cables are left inaccessible to CLECs at manholes or other splice points where they remain "readily called into service" for SWBT, but no one else. If SWBT's proposed terms are adopted, the Commission's decision in the CoServ arbitration, and indeed all of the state and federal rules regarding dark fiber unbundling, would be undermined and dark fiber UNEs would be effectively unavailable to CLECs in most locations, while it would remain easily accessible to SWBT for its own services.

Q. DOES SWBT SPLICE ITS DARK FIBER FOR ITS OWN USE?

A. Yes. As I testified above, when SWBT installs fiber, it typically performs only the splices and terminations that are necessary to meet its existing service demands, and unused dark fiber remains unterminated and unspliced. While employed by SWBT, I personally oversaw SWBT's fiber optic splicing crew in Houston whose sole job, day in and day out, was to perform fiber optic splicing functions. When SWBT needs fiber transmission on new routes or additional strands on existing routes, SWBT performs splices for itself on any route needed to serve a SWBT customer. SWBT technicians open up existing splice cases on a frequent and routine basis, as dictated by customer demand. SWBT could therefore offer services over its dark fiber facilities to new customers that EPN would not be able to serve using dark fiber UNEs, using the very same already-deployed facilities that SWBT would refuse to unbundle for EPN to serve the same

customer. EPN is simply asking that SWBT treat EPN in parity with the way it treats itself.

Q. IS EPN SEEKING RELIEF IDENTICAL TO THAT SOUGHT BY COSERV IN ITS RECENT ARBITRATION WITH SWBT BEFORE THIS COMMISSION?

A. No. CoServ requested the right to use its own technicians to perform splices on SWBT's fibers. By contrast, EPN has proposed to allow SWBT to control and conduct the splicing, using the same terms and conditions on which is performs splicing for itself, as it promised to do for EPN three years ago in the Waller Creek arbitration. Moreover, the record in CoServ arbitration was not fully developed to demonstrate, among other important factors, that SWBT purposefully deploys fiber unspliced, yet is easily able to call the fibers into service for its own needs.

Q. DOES SPLICING AT EXISTING SPLICE CASES PERFORMED BY AUTHORIZED SWBT TECHNICIANS POSE AN UNREASONABLE OR SIGNIFICANT RISK OF DAMAGING THE NETWORK OR CAUSING EXTENDED SERVICE OUTAGES TO OTHER USERS?

A. No. SWBT routinely performs splicing for its own customer needs, and has performed splices for EPN on approximately 300 occasions in Texas. There is no evidence that that such splicing has resulted in any unreasonable or significant risk of damage to the facilities of SWBT or any other carrier, or of causing service outages. As a former SWBT manager with supervisory responsibility for SWBT's fiber optic splicing for the Houston area for many years, I can testify that SWBT can and does conduct splicing activity, as described in my testimony, routinely and without undue risk to the network. SWBT has skilled technicians, some of whom I personally supervised, who open existing

splice cases and perform splicing on fibers inside these cases on a daily basis, and has methods and procedures in place to avoid any undue risk to the network. The risk of damage does not dissuade SWBT from performing splices for its own needs, and should likewise not be a basis for SWBT to discriminate against CLECs by refusing to provide splicing to them.

I understand that in the CoServ arbitration, the arbitrator expressed concern that splicing poses a risk of "impairment to the telecommunications services of others since the activity risks cutting lit fiber in use by others."[4] My own experience at SWBT and in the industry leads me to believe that this risk has been vastly overstated by SWBT, which routinely performs splices on cables that include other fibers in use for lit service. The splicing required for EPN only "cuts" *dark* fiber, so there is no interruption to the fibers in the cable or sheath that may be lit. In my experience, SWBT splicing technicians use a small blade designed specifically for performing splicing without undue risk to the network. SWBT performs this work regularly for its own needs, but then claims that the same work is too risky to be undertaken when it is for the benefit of EPN.

Q. WOULD EPN'S PROPOSED CONTRACT LANGUAGE GOVERNING SPLICING OF TWO SWBT DARK FIBERS AT EXISTING SPLICE CASES REQUIRE SWBT TO PERFORM ANY TYPE OF SPLICING, OR SPLICING UNDER ANY TERMS AND CONDITIONS, THAT SWBT DOES NOT ALREADY PROVIDE TO ITSELF, TO ITS AFFILIATES, OR TO OTHER CARRIERS?

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[4] *Joint Petition of CoServ, L.L.C. d/b/a CoServ Communications and Multi-Technology Services, L.P., d/b/a CoServ Broadband Services for Arbitration of Interconnection Rates, Terms, Conditions, and Related Arrangements with Southwestern Bell Telephone Company*, Docket No. 23396, Arbitration Award, at 116 (Tex. P.U.C. Apr. 17, 2001) ("*CoServ Arbitration Award*").

A. No. SWBT regularly performs for itself the types of splicing that EPN is seeking in this proceeding, including the opening of existing splice cases and the splicing of fiber therein to enable any possible A to Z route. EPN is only seeking the same access to dark fibers that SWBT already enjoys for its own needs.

Q. DOES EPN HAVE QUALIFIED PERSONNEL WHO COULD PERFORM SPLICING ON SWBT AND EPN FIBER WITHOUT POSING AN UNREASONABLE OR SIGNIFICANT RISK TO DAMAGING THE NETWORK OR CAUSING UNREASONABLE SERVICE OUTAGES?

A. Yes. EPN employs specialized technical personnel who are capable of performing splicing with the same degree of skill and care as SWBT employees, and therefore could perform splices on SWBT's and EPN's fibers without posing any greater risk of damage or outages than would be posed by SWBT's own splicing.

Q. IS IT REASONABLE TO BE CONCERNED THAT EPN MIGHT REQUEST SPLICING OF FIBER SO FREQUENTLY AS TO POSE AN UNDUE RISK OF NETWORK DAMAGE?

A. No. Since most new optical services for any carrier would require splicing, the future splicing needs of carriers should be roughly in proportion to their share of the optical telecommunications market. Where SWBT has in the past made splicing available to CLECs, and in states where ILECs are required to provide splicing, there is no evidence that CLEC splicing rights have generated such an increase in splicing activity so as to pose an undue increase in the risk of damage to the network. In fact, of the approximately 300 fibers that SWBT has spliced for EPN, EPN has never later requested that any of these fibers be respliced to provide a different route.